DVR User Manual

For H.264 8-channel digital video recorder

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CAUTION

- Please read this user manual carefully to ensure that you can use the device correctly and safely.
- There may be several technically incorrect places or printing errors in this manual. The updates will be added into the new version of this manual. The contents of this manual are subject to change without notice.
- This device should be operated only from the type of power source indicated on the marking label. The voltage of the power must be verified before using. If the device doesn"t work for a long time, pull out the plug from the socket.
- Do not install this device near any heat sources such as radiators, heat registers, stoves or other device that produce heat.
- Do not install this device near water. Clean only with a dry cloth.
- Place the device in a well-ventilated area.
- Do not power off the DVR at normal recording condition! The correct operation to shut off DVR is to stop recording firstly, and then to select “shut-down” button at the right of the menu bar to exit, and finally to cut off the power.
- This machine is indoor using equipment. Do not expose the machine in rain or moist environment. In case any solid or liquid get into the machine"s case, please cut off the power supply immediately, and ask for qualified technicians to check the machine before restart
- Do not try to repair the device by yourself without technical aid or approval.
- When this product is in use, the relevant contents of Microsoft, Apple and Google will be involved in. The pictures and screenshots in this manual are only used to explain the usage of our product. The ownerships of trademarks, logos and other intellectual properties related to Microsoft, Apple and Google shall belong to the above-mentioned companies.
- This manual is suitable for 8-channel digital video recorders. All examples and pictures used in the manual are from 8-channel DVR.

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1 Introduction

1.1 DVR Introduction

This model DVR (Digital Video Recorder) is designed specially for CCTV system. It adopts high performance video processing chips and embedded Linux system. Meanwhile, it utilizes many most advanced technologies, such as standard H.264 with low bit rate, Dual stream, SATA interface, VGA output mouse supported, IE browser supported with full remote control, mobile view(by phones), etc., which ensure its powerful functions and high stability. Due to these distinctive characteristics, it is widely used in banks, telecommunication, transportation, factories, warehouse, and irrigation and so on.

1.2 Main Features

COMPRESSION FORMAT

- Standard H.264 compression with low bit rate and better image quality

LIVE SURVEILLANCE

- Supports HDMI/ VGA/BNC output
- Supports channel security by hiding live display
- Display the local record state and basic information
- Supports USB to make full control

RECORD MEDIA

- Supports two SATA HDDs to record for a longer time without any limitation

BACKUP

- Supports USB 2.0 devices to backup
- Supports built-in SATA DVD writer to backup
- Supports saving recorded files with AVI standard format to a remote computer through internet

RECORD & PLAYBACK

- Record modes: Manual, Schedule, Motion detection and Sensor alarm recording
- Supports recycle after HDD full
- Resolution, frame rate and picture quality are adjustable
- 8-ch SDI real time recording
- 4 audio channels available
- Three record search modes: time search, event search and image search
- 8 screen playback simultaneously
- Supports deleting and locking the recorded files one by one
- Supports remote playback in Network Client through LAN or internet

ALARM

- 1 channel alarm output and 8 channel alarm input available
- Supports schedule for motion detection and sensor alarm
- Supports pre-recording and post recording

- Supports linked channels recording once motion or alarm triggered on certain channel
- Supports linked PTZ preset ， auto cruise and track of the corresponding channel

PTZ CONTROL

- Supports various PTZ protocols
- Supports 128 PTZ presets and 8 auto cruise tracks
- Supports remote PTZ control through internet

SECURITY

- Customize user right: log search, system setup, two way audio, file management, disk management, remote login, live view, manual record, playback, PTZ control and remote live view
- Supports 1 administrator and 63 users.
- Supports event log recording and checking, events unlimited

NETWORK

- Supports TCP/IP, DHCP, PPPoE, DDNS protocol
- Supports IE browser to do remote view
- Supports setup client connection amount
- Supports dual stream. Network stream is adjustable independently to fit the network bandwidth and environment.
- Supports picture snap and color adjustment in remote live
- Supports remote time and event search, and channel playback with picture snap
- Supports remote PTZ control with preset and auto cruise
- Supports remote full menu setup, changing all the DVR parameters remotely
- Supports mobile surveillance by smart phones , WinCE, iPhone or Gphone, 3G network available
- Supports CMS/NVMS to manage multi devices on internet

2 Hardware Installation

2.1 Install Hard Drive &DVD Writer

2.1.1 Install Hard Drive

Check the unit and the accessories after getting the DVR. Please don't power up the unit till the physical installation is complete.

Notice: *1. This series support two SATA hard drives. Please use the hard drive the manufacturers recommend specially for security and safe field.*
2. Please calculate HDD capacity according to the recording setting. Please refer to "Appendix B Calculate Recording Capacity".

Step 1: Unscrew and open the top cover.
Step 2: Connect the power and data cables. Place the HDD onto the bottom case as Fig 2-1.
Step 3: Screw the HDD as Fig 2-2.

Fig 2-1 Connect HDD

Fig 2-2 Screw HDD

Note*: For convenience installation, please connect the power and data cables first and then wind the screws to fix the HDD.*

2.1.2 Install DVD Writer

Step 1: Unscrew and open the top cover.
Step 2: Connect the power and data cable. Place the DVD writer onto the bottom case as Fig 2-3.
Step 3: Screw the HDD as Fig 2-4.

Fig 2-3 Connect the DVD Writer

Fig 2-4 Screw the Writer

***Note**: The writer which is for backup only must be the compatible device we recommend. Please refer to "Appendix C Compatible Devices".*

2.2 Front Panel Descriptions

***Notice:** The front panel descriptions are only for reference; please make the object as the standard.*

Item	Type	Name	Description
1	Work state indicator	Power	The power indicator turns blue when DVR is powered up.
		HDD	The light turns blue when HDD is writing and reading.
		Net	The light turns blue when it is able to access the network.
		Backup	The light turns blue when backing up files and data.
		Play	The light turns blue when playing video.
		REC	The light turns blue when recording.
2	Function button	MENU/+	1. Enter menu in live 2. Increase the value in setup
		BACKUP/-	1. Decrease the value in setup 2. Enter backup mode in live
		RECORD/FOCUS	1. Record manually 2. FOCUS function enables at PTZ mode.
		REW/SPEED	1. Rewind key 2. SPEED function enables at PTZ mode
		SEARCH/ZOOM	1. Enter search mode 2.ZOOM function enables at PTZ mode.
		PLAY /IRIS	1. Enter play interface 2. IRIS function enables at PTZ mode
		FF/ P.T.Z.	1. Fast forward 2. Enter PTZ mode in live.
		STOP/ESC	1. Quit play mode 2. Exit the current interface or status.
3	Digital button	1-9	Input number 1-9 or choose camera.
		0/10+	Input number0, 10 and the above number together with other digital keys .
4	Input button	Direction button	Change direction to select items.
		Multi-screen	Change screen display mode like1/4/8 channel.
		Enter button	Confirm selection.
5	IR receiver	IR	For remote controller
6	USB	USB port	To connect external USB devices like USB flash, USB HDD for backup or update firmware; or connect to USB mouse.

2.3 Rear Panel Instructions

The rear Panel interface for 8-ch is shown as Fig 2-5:

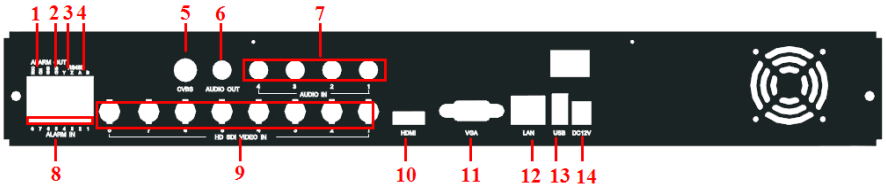


Fig 2-5 Rear Panel for 8-ch

Item	Name	Description
1	Alarm Out	1-ch relay output. Connect to external alarm.
2	GND	Grounding
3	Y/Z	Connect to speed dome, Y is TX+; Z is TX-
4	A/B	Connect to keyboard; A is TX +; B is TX-
5	CVBS Port	CVBS video signal output
6	Audio Out	Audio output, connect to the sound box
7	Audio In	4-ch audio inputs
8	Alarm In	Connect to external sensor1-8
9	HDSDI Video In	8-ch SDI video inputs
10	HDMI Port	Connect to high-definition display device
11	Alarm In	Connect to external sensor1-8
12	LAN	Network port
13	USB Port	To connect external USB devices like USB flash, USB HDD for backup or update firmware; or connect to USB mouse
14	DC 12V	Power input

2.4 Remote Controller

It uses two AAA size batteries.

Step 1: Open the battery cover of the remote controller.

Step 2: Place batteries. Please take care the polarity (+ and -).

Step 3: Replace the battery cover.

If it still doesn't work, please change a new remote controller to try, or contact your dealers. The interface of remote controller is shown in Fig 2-6 Remote Controller.

Key points to check in case the remote doesn't work.

1. Check batteries polarity.

2. Check the remaining charge in the batteries.

3. Check IR controller sensor for any masking.

4. Check the ID of the remote with respect to the DVR.

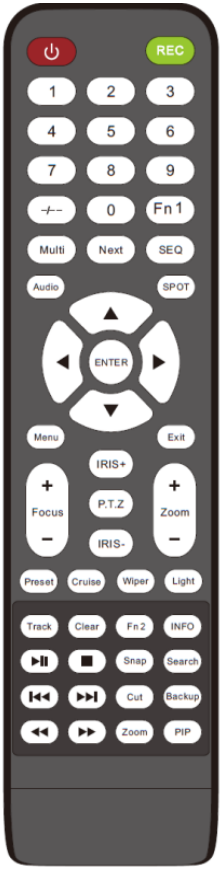


Fig 2-6 Remote Controller

Button	Function
Power Button	Switch off—to stop DVR. Use it before turning off the power
Record Button	To record manually
-/-- /0-9 Digital Button	Input number or choose camera
Fn1 Button	Unavailable temporarily
Multi Button	To choose multi screen display mode
Next Button	To switch the live image
SEQ	To enter into auto dwell mode
Audio	To enable audio output in live mode
Switch	To switch the output between BNC and VGA
Direction button	To move cursor in setup or pan/title PTZ
Enter Button	To confirm the choice or setup
Menu Button	To enter into menu
Exit Button	To exit the current interface
Focus/IRIS/Zoom/PTZ	To control PTZ camera. Move camera/zoom/IRIS/Focus
Preset Button	To enter into preset setting in PTZ mode
Cruise Button	To enter into cruise setting in PTZ mode
Track Button	To enter into track setting in PTZ mode
Wiper Button	To enable wiper function in PTZ mode
Light Button	To enable light function in PTZ mode
Clear Button	To return to the previous interface
Fn2 Button	Unavailable temporarily
Info Button	Get information about DVR like firmware version, HDD information
	To control playback. Play/Pause/Stop/Previous Section/Next Section/Rewind/Fast Forward
Snap Button	To take snapshots manually
Search Button	To enter into search mode
Cut Button	To set the start/end time for backup in playback mode
Backup Button	To enter into backup mode
Zoom Button	To zoom in the images
PIP Button	To enter into picture in picture setting mode

Operation processes with remote controller to control multi-DVR

The device ID of the DVR is 0. It's not necessary to reset the device ID when a remote is not be used to control a single DVR. However when controlling multiple DVRs with multiple remote controllers, you would need to configure the device ID. Please refer to below steps:

Step 1: Activate remote controller to control DVR: Turn the IR sensor of the remote controller towards the IR receiver on the front panel, press the number key 8 twice, then input device ID of the DVR to be controlled (Range from: 0-65535; the default device ID is 0) and then press ENTER button to confirm.

Step 2: Check the device ID of DVR from System Setup → Basic → Device ID. You can also set multiple DVRs with the same device ID. However, this can cause interference if the DVRs are kept close to each other.

2.5 Control with Mouse

2.5.1 Connect Mouse

It supports USB mouse through the ports on the rear panel.
If mouse is not detected or doesn't work, check below steps:
1. Make sure the mouse is plugged in the USB mouse port.
2. Try with a good know mouse.

2.5.2 Use Mouse

During live:
Double-click on any camera window to see the full screen. Double-click again to return to the previous screen.
Right click to reveal the control menu on the screen. Right click again to hide the menu.

In Configuration:
Click to enter a particular option. Right click to cancel the option or to return to the previous menu.
In order to input a value in a particular screen, move cursor to the input box and click. An input window will appear as Fig 2-7. It supports digits, alphabets and symbols input. Click Shift button to input Capital letters and symbols; click Shift button again to return.

It supports mouse drag. Take setting up motion detection area for example: Click customized, hold down the left button and drag to set motion detection area.

Fig 2-7 Digital Numbers and Letters Input Window

In Playback:
Click to choose the options. Right click to return to live mode.

In Backup:
Click to choose the options. Right click to return to previous picture.

In PTZ Control:
Click left button to choose the buttons to control the PTZ. Click right button to return to live.

***Note**: Mouse is the default tool for all operations unless an exception, as indicated.*

3 Basic Function Instruction

3.1 Power On/Off

Before you power on the unit, please make sure all the connection is good.

3.1.1 Power On

Step 1: Connect with the source power.
Step 2: The device will boot and the power LED would turn blue.
Step 3: A WIZZARD window will pop up and show some information about time zone, time setup, network configuration, record configuration and disk management. User can setup here and refer to the concrete setup steps from the corresponding chapters. If users don't want to setup Wizard, please click Exit button to exit.

Note: *This DVR can only display options on either VGA monitor or BNC monitor at a given point of time, if there is live image display without menu options then please check if there is display on other device/monitor, or long press ESC key to wait for login dialog box to appear. Long press ESC key can switch the output between BNC and VGA.*

3.1.2 Power Off

User can power off the device by using remote controller, keyboard and mouse.

By remote controller:
Step 1: Press Power button. This will take you to a Shut down window. The unit will power off after a while by clicking OK button.
Step 2: Disconnect the power

By keyboard and mouse:
Step 1: Enter into Menu and then select "Shut Down" icon to pop up the Shut down window.
Step 2: Click OK. Then the unit will power off after a while.
Step 3: Disconnect the power.

3.2 Login

User can login or log off the DVR system. Once logged off the user cannot do any other operation except changing the multi-screen display.

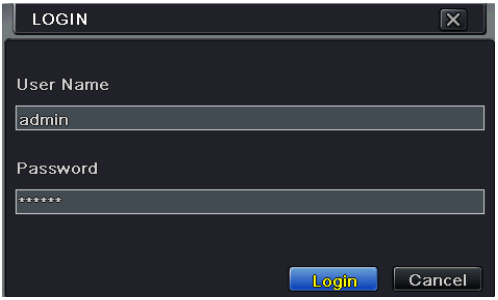


Fig 3-1 Login

Notice: *The default user name and password is "admin" and 123456".*
For complete operational steps for changing password, adding or deleting users, please refer to section 4.7 User Management Configuration.

3.3 Live Preview

Fig 3-2 Live Preview Interface

Symbol	Meaning
Green	Manual record
Yellow	Motion detection record
Red	Sensor Alarm record
Blue	Schedule record

3.4 Live Playback

Click Play button to playback the record. Refer to Fig 3-3. User can do complete operation by clicking the buttons on screen.

Fig 3-3 Live Playback

4 Main Menu Setup Guide

Click right mouse or press ESC button on the front panel and then the control bar will display at the bottom of the screen. Refer to Fig 4-1:

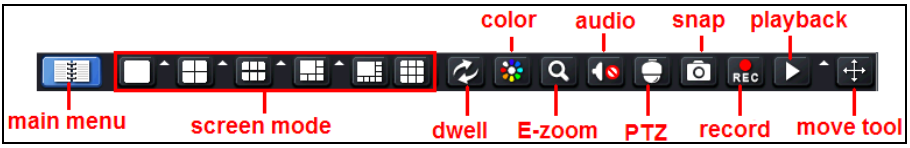


Fig 4-1 Main Menu Toolbar

Screen Mode: Click to select screen mode like 1/4/6/8 channels. Click the icon beside the screen display mode to select channels. Images can drag to any place to display in the live interface.

Dwell: Dwell means to display live images from different cameras in a sequence. The images may be displayed as a single channel or in a grid fashion from different cameras. Dwell mode is enabled only when the chosen display mode is not able to display all the available cameras.

Color: If this button is enabled, you can adjust the color of live pictures.

E-Zoom: Single channel large screen electronic amplification.

Audio: Enable sound.

PTZ: Click the PTZ button to control rotation position, speed and auto scan of the PTZ.

Snap: Click this button to snap the live pictures. These pictures will automatically be saved in the SATA disk.

Record: Click this button to start/stop recording.

Playback: Click this button to playback the record files. Click the icon beside the playback icon to select playback time. For example, if 2 minutes is selected and then click playback button, it will start to play from 2 minutes ago.

User can click button and drag it anywhere with the left mouse.

Click Menu button to pop up a window as Fig 4-2. You can also press MENU button on the front panel or operate with remote controller to display the main menu. Clicking Setup icon will pop-up the configuration menu:

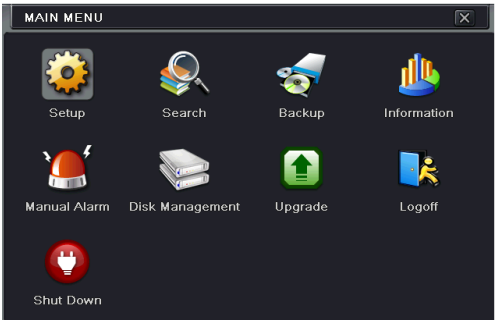


Fig 4-2 Setup

4.1 Basic Configuration

Basic configuration includes three sub menus: system, date & time and DST.

4.1.1 System

Step 1: Enter into Menu→Setup→Basic →System interface. Refer to Fig 4-3:

Fig 4-3 Basic Configuration-System

Step 2: In this interface you can setup the device name, device ID, video format, max network users, VGA resolution, language and so on. The definitions for every parameters display as below:

Device Name: The name of the device. It may display on the client end or CMS that help user to recognize the device remotely.

Device ID: This ID is used to map the DVR with IR remote controller and speed dome cameras.

Video Format: Two modes: PAL and NTSC. User can select the video format according to that of camera.

Password Check: If this option is enabled, the user would need to input the user name and the password for performing corresponding operations.

Show System Time: If selected, the current time will be displayed during live monitoring.

Max Online Users: To set the max number of concurrent user logins in the DVR.
Video Output: The resolution of live display interface, range from: VGA800*600, VGA1280*1024 and HDMI.

> ***Note:*** *Switching between VGA and HDMI will change the menu output mode. Please connect to relevant monitor.*

Language: Setup the menu language.

> ***Note:*** *After changing the language and video output, the device needs to login again.*

Logout After (Minutes): A user can setup the screen interval time (30s, 60s, 180s, 300s). If there is no any operation within the setting period, the device will auto logout and return to login interface.
Show Wizard: If selected, the GUI would launch the startup wizard on every boot, allowing the user to do basic setup.
No Image When Logout: If selected, there will be no image showing when logging out.

4.1.2 Time & Date

Step 1: Enter into Menu→Setup→Basic →Date & Time interface. Refer to Fig 4-4:

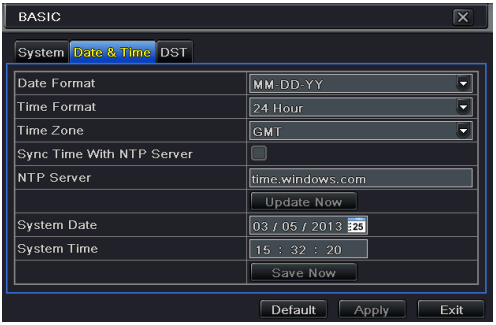


Fig 4-4 Basic Configuration-Date & Time

Step 2: Set the date format, time format, time zone in this interface; checkmark "sync time with NTP server" to refresh NTP server date. You can also adjust system date manually.
Step 3: Click "Apply" button to save the setting.

4.1.3 DST

Step 1: Enter into Menu→Setup→Basic →DST interface. Refer to Fig 4-5:
Step 2: In this interface, enable daylight saving time, time offset, mode, start & end

month/week/date, etc.

Step 3: Click "Apply" button to save the setting.

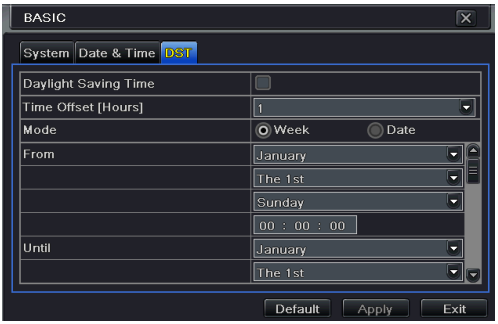


Fig 4-5 Basic Configuration-DST

4.2 Live Configuration

Live configuration includes three submenus: live, main monitor and mask.

4.2.1 Live

In this interface, you can setup camera name and adjust colors.

To setup camera name:

Step 1: Enter into Menu→Setup→Live. Refer to Fig 4-6:

Fig 4-6 Live Configuration→Live

Step 2: A software keyboard will pop up by clicking camera name area. Click the letters and (or) digital numbers on the keyboard to input the name you want to display in live image.

Step 3: Checkmark the camera name in the show name area.

All channels will show the camera name by checking "All" checkbox.

Step 4: Click "Apply" to save the setting.

To setup color:

Step 1: Click "Setting" button for a particular camera/channel to see a window as Fig 4-7:

Step 2: In this interface, you can adjust brightness, hue, saturation and contrast in live. Click "OK" button to save the setting.

Fig 4-7 Live-Color Adjustment

4.2.2 Main Monitor

The main monitor settings allow you to set camera sequence in live display mode.

Operate the following steps to set main monitor:

Step 1: Enter into Menu→Setup→Live →Main Monitor interface. Refer to Fig 4-8:

Fig 4-8 Live Configuration-Main Monitor

Step 2: Select display mode and channel.

Step 3: Select dwell time. Click button to setup the previous channel groups of dwell picture. Click button to set the latter channel groups of dwell picture.

Step 4: Click "Apply" to save the setting.

4.2.3 Mask

If there is something you don't want to display in the live image. You can set mask. For a given channel a maximum of three areas can be masked.

To setup mask area:

Step 1: Enter into Menu→Setup→Live →Mask interface.

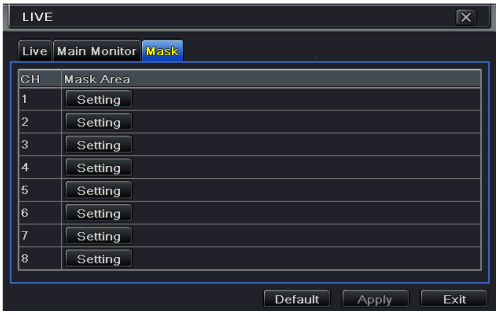


Fig 4-9 Live Configuration-Mask

Step 2: Click Setting button to go into live image.
Step 3: Press and drag the left mouse button to set mask area as shown below.
Step 4: Right click to exit the mask setting interface.
Step 5: Click Apply button to save the setting.

To delete mask area

Step 1: Click Setting button in the mask interface.
Step 2: Select a certain masked area and double click to delete that masked area.
Step 3: Then click Apply button to save the setting.

Setup Mask Area

4.3 Record Configuration

Record configuration includes six sub menus: enable, record bit rate, time, recycle record, stamp and snap.

Before Configuration, please make sure your DVR has been installed with HDD and has completed its initialization.

4.3.1 Enable

Step 1: Enter into Menu→Setup→Record→Enable interface. Refer to Fig 4-10:

Fig 4-10 Record Configuration-Enable

Parameter	Meaning
Record	To enable/disable recording for the channel
Audio	To enable/disable audio recording for the channel

Step 2: Checkmark record and audio.
Step 3: Select All to setup the same settings for all channels.

4.3.2 Record Bitrate

Step 1: Enter into Menu→Setup→Record →Record Bitrate. Refer to Fig 4-11:
Step 2: Setup rate, resolution, quality, encode and max bit stream.
Step 3: Select "All" to set the same settings for all channels.
Step 4: Click "Apply" button to save the setting.

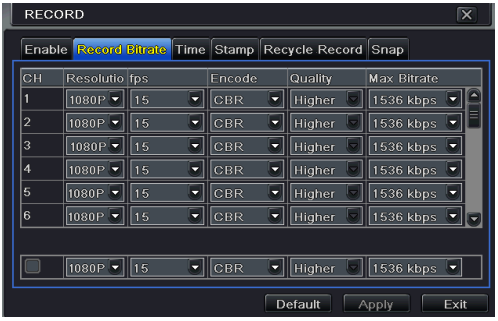


Fig 4-11 Record Configuration-Record Bitrate

Parameter	Meaning
Rate	Range from: 1-15（NTSC）1-12(PAL)
Resolution	Supports1080P
Quality	The higher the value is, the clearer the recorded image is. Six options: lowest, lower, low, medium, higher and highest.
Encode	VBR and CBR
Max bit stream	Range from: 1536~12288kbps

4.3.3 Time

Step 1: Enter into Menu→Setup→Record → Time interface to set recording time. Refer to Fig 4-12:
Step 2: Set Pre-alarm record time and post-alarm record time. Select "All" to set the same settings for all channels.

Pre-alarm Record Time: Set the time in seconds to pre-record before the actual recording begins.
Post-alarm Record Time: Set the time in seconds to post-record after the actual recording has finished, five options: 10s, 15s, 20s, 30s, 60s, 120s, 180s and 300s.
Expire Time: Set the expiration time for recorded video. If the set date is overdue, the recorded files will be deleted automatically.

Step 3: Click "Apply" to save the setting.

Fig 4-12 Record Configuration-Time

4.3.4 Stamp

This provides an option to enable or disable the Camera Name and the Time stamp on the video. The user can also choose a position for the stamp on the screen**.**
To setup stamp as follows:
Step 1: Enter into Menu→ Setup→Record→Stamp interface. Refer to Fig 4-13:

Fig 4-13 Record Configuration-Stamp

Step 2: Checkmark camera name and time stamp. Click Setting button to setup the position of the stamp. You can drag the camera name and time stamp at random positions. Refer to below Figures:

Before drag

After drag

Step 3: Select "All" to setup all channels with the same parameters.

4.3.5 Recycle Record

This option is used to recycle the HDD space once it is full. If enabled, the system will automatically delete the old records and recycle the space if it is completely utilized. The setting steps are as follows:

Step 1: Enter into Menu→Setup→Record →Recycle Record interface;

Step 2: Checkmark recycle record to activate auto recycling. If the option is disabled or not selected, the DVR would stop recording once HDD is full.

Step 3: Click "Apply" button to save the setting.

4.3.6 Snap

In this interface, user can set up Resolution, quality, snap interval, snap number.

4.4 Schedule Configuration

Schedule configuration includes three sub menus: schedule, motion and sensor.

4.4.1 Schedule

This tab allows defining schedule for normal recording for seven days of a week, 24 hours of a day. Every row denotes an hourly timeline for a day. Click the grid to do relevant setup. A highlighted area denotes selected timeline. Operate the following steps to set schedule:

Step 1: Enter into Menu→Setup→Schedule interface. Refer to Fig 4-14:

Step 2: Select channel and click "" button to add a certain day schedule. Click "" button to delete the selected schedule.

If you want to apply the schedule setting of a certain channel to other or all channels, you need to select channel and click "Copy" button.

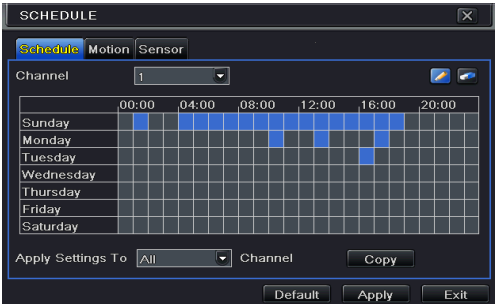


Fig 4-14 Schedule Configuration-Schedule

You can also set week schedule by double-clicking in the grinding area. This will take you to see a dialog box as Fig 4-15.

Step 1: Select a day and click "Add" button to schedule start time and end time. Then click to save.

Step 2: Select other days and add schedule or copy settings from one schedule to the others under the Apply Settings To item.

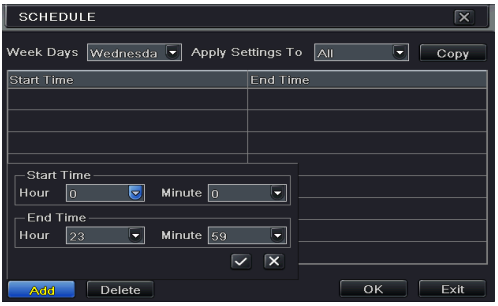


Fig 4-15 Schedule-Week Schedule

4.4.2 Motion Schedule

This tab allows to set schedule for motion based recording. The setting steps are as follows:
Step 1: Enter into Menu→Setup→Schedule →Motion tab.
Step 2: The setup steps for schedule for motion based recording are similar to normal schedule setup. You can refer to 4.4.1 Schedule for details.

> ***Note:*** *The default schedule of motion based recording is 24 x 7. If you want to activate motion based recording, you must enable motion alarm and setup schedule for motion alarm (see Chapter 4.5.2 Motion Alarm for more details).*

4.4.3 Sensor Schedule

This tab allows to set schedule for sensor based recording. The setting steps are as follows:
Step 1: Enter into Menu→Setup→Schedule→Sensor interface.
Step 2: The setup steps for schedule for sensor based recording are similar to normal schedule setup (see Chapter 4.4.1 Schedule for details).

> ***Note:*** *The default schedule of sensor based recording is 24 x 7. If you want to activate sensor based recording, you must enable sensor alarm and setup schedule for sensor alarm (see Chapter 4.5.1 Sensor Alarm for more details).*

4.5 Alarm Configuration

Alarm configuration includes five sub menus: sensor, motion, video loss, other alarm and alarm out.

4.5.1 Sensor Alarm

Sensor includes three sub menus: basic, alarm handling and schedule.
Operate the following steps to configure sensor alarm:
Step 1: Enter into Menu→Setup→Alarm →Sensor→Basic interface. Refer to Fig 4-16:

Fig 4-16 Alarm Configuration-Sensor-Basic

Step 2: Enable channels by checking the checkboxes beside the desired channels.
Step 3: Set the alarm type according to triggered alarm type. Two option: NO and NC.
Step 4: Click "Apply" button to save the setting.
Step 5: Enter into Alarm Handling tab. Refer to Fig 4-17. Select hold time and then click "Setting" button to pop up a dialog box as shown in Fig 4-18.

Fig 4-17 Alarm Configuration-Sensor-Alarm Handling

Step 6: Enter into alarm tab to select the options to handle alarm.

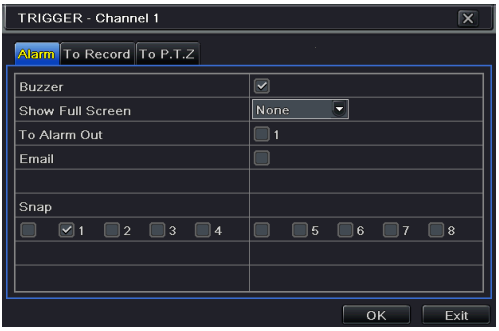


Fig 4-18 Alarm Handling-Trigger

Buzzer: If selected, the local buzzer would be activated on an alarm.
Show Full Screen: If selected, there will pop up the chosen channel on the monitor on an alarm trigger.
Email: If selected, the DVR will send an email alert to the preconfigured email address in case of a sensor based alarm from the particular input.
Snap: If selected, the system will snap images of the checked channels on an alarm and save them in the HDD automatically.

Step 7: Enter into To Record tab. Select recording channels. It would be recorded in case of an alarm. Click OK button to save the setting.
Step 8: Enter into To PTZ tab. Set preset, cruise and track options for a PTZ in case of a

sensor based alarm. Single or multiple PTZ units could be programmed to perform this function on the same alarm.

Step 9: Enter into Schedule tab. The setting steps for schedule for sensor based alarm are similar to normal schedule setup. You can refer to 4.4.1 Schedule for details. This step is very important for sensor alarm. Even if you have enabled the sensor alarm for all channels and setup the trigger, you will not see the result of sensor alarm if no schedule is added.

If you have set schedule for sensor based recording in the same timeline, recordings can also be triggered.

4.5.2 Motion Alarm

Motion includes two sub menus: motion and schedule. The steps to set motion alarm are as follows:

Step 1: Enter into Menu→Setup→Alarm →Motion. Refer to Fig 4-19:

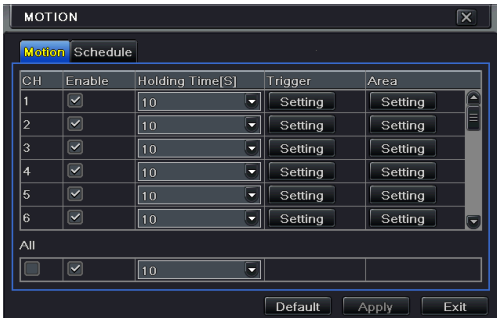


Fig 4-19 Alarm Configuration-Motion

Step 2: Enable motion alarm, set alarm hold time which refers to the time till which the system will wait for further detection of motion. e.g. If the holding time is set to 10 seconds, once the system detects a motion, it will go into alarm but would not detect any other motion alarm (specific to channel) until 10 seconds. If there is other motion detected during this period it is considered it as continuous movement, otherwise it will be considered as a single motion.

Step 3: The setup steps of motion trigger are similar to "Alarm Handling" (See Chapter 4.5.1 Sensor →Alarm Handling setting for more details).

Step 4: After clicking Area button, a dialog box will pop-up as Fig 4-20:

Step 5: In the Area interface, you can drag slide bar to set the sensitivity value (1-8). The higher the value is the more sensitive it is to motion. Since the sensitivity is influenced by color and time (day or night), you can adjust its value according to the practical conditions. Left click the grid and drag to delete area. Click icon to set the whole area as detection area. Click icon to clear the set detection area. Click icon to test the sensitivity as per the local conditions. Once motion is sensed, it displays a figure icon. Click icon, to save the setting. Click icon to exit the current interface.

Fig 4-20 Motion-Area

Note: *Prior to setting motion detection field it is recommended that you click* *icon to clear the existing field and set afresh.*

Step 6: Select "All" to set the same settings for all channels.
Step 7: Click "Apply" button to save the setting.
Step 8: Enter into Schedule tab. The setting steps for schedule for motion based alarm are similar to normal schedule setup (see Chapter 4.4.1 for more details).

4.5.3 Video Loss

This DVR can be set up to detect video loss. The setting steps are as follows:
Step 1: Enter into Menu→Setup→Alarm →Video Loss. Refer to Fig 4-21:
Step 2: The setup steps of video loss trigger are similar to "Alarm Handling" (See Chapter 4.5.1 Sensor →Alarm Handling setting for more details).

Fig 4-21 Alarm Configuration-Video Loss

4.5.4 Other Alarm

This tab gives a choice to configure alarm for Disk Full, IP Conflict, the Disconnect event, Disk Attenuation or Disk Lost.

Step 1: Enter into Menu → Setup →Other Alarm. Refer to Fig 4-22:

Fig 4-22 Other Alarm

Step 2: Use the dropdown menu and select the event or the alarm.
Step 3: Check the required trigger options.
If the selected event is "Disk Full", then use the drop down box for "Disk Shortage Alarm" to choose a threshold value for remaining HDD space. If the threshold value is reached, the system will trigger the Disk Full Alarm.
Step 4: Click "Apply" to save the setting.

4.5.5 Alarm Out

Alarm out includes three sub menus: alarm out, schedule and buzzer.

To setup alarm out:
Step 1: Enter into Menu→Setup→Alarm Out. Refer to Fig 4-23:

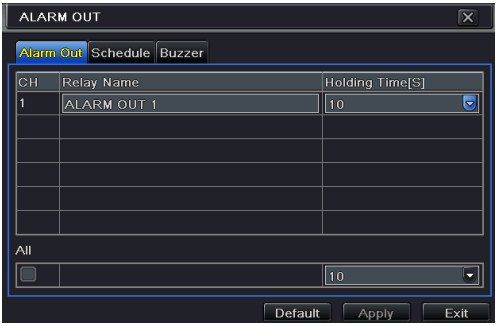


Fig 4-23 System Configuration-Alarm Out

Step 2: Input relay name and select hold time.
Step 3: Enter into Schedule tab. This will go into schedule setup interface. The setting steps for schedule for alarm out are similar to normal schedule setup (see Chapter 4.4.1 for details). This step is very important for alarm out. Even if you have enabled alarm out in the motion

based alarm or sensor based alarm, you will not see the result of alarm out if no schedule is added here.

To set up buzzer:
Step 1: Enter into Menu→Setup→Alarm Out →Buzzer.
Step 2: Checkmark Buzzer and set buzzer alarm hold time. This would trigger the buzzer when the system is on an alarm.

4.6 Network Configuration

Network configuration includes five submenus: network, sub stream, Email, server and other settings. Network settings must be configured if DVR is used for monitoring over network.

4.6.1 Network

To set up network:
Step 1: Enter into Menu→Setup→Network→Network tab. Refer to Fig 4-24:

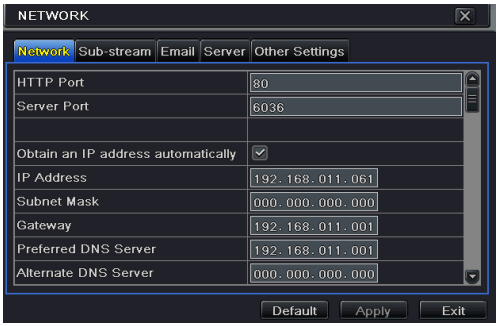


Fig 4-24 Network Configuration-Network

Step 2: Set HTTP port. The default HTTP port is 80. If the value is changed, you shall add the port number when typing IP address in IE address blank. e.g. If HTTP port is set to 82 and IP address is http://192.168.0.25, you should input the following IP address: http://192.168.0.25:82 into IE browser.
Step 3: Set server port. The default server port is 6036.
Step 4: Connect internet. There are three ways to connect internet.

- If you have a DHCP server running and would like your DVR to automatically obtain an IP address and other network settings, check the checkbox beside "Obtain an IP address automatically". Then the device will distribute IP address, subnet mask, and gateway IP and DNS server.
- If you want to configure your own settings, disable “Obtain an IP address automatically” item and input the IP address, subnet mask, gateway IP and DNS server.
- If you connect internet through PPPoE, disable “Obtain an IP address automatically”

item and check PPPoE checkbox and then enter username and password. Once the setup is completed, your DVR will automatically dial up into your network.

Step 5: Test the effectiveness of the network by clicking "Test" button after you set up the network.
Step 6: If the network is well connected, please click "Apply" button to save the setting.

4.6.2 Sub Stream

To setup sub stream:
Step 1: Enter into Menu→Setup→Network →Sub Stream interface. Refer to Fig 4-25:
Step 2: Select fps, resolution, quality, encode and max bit rate
Step 3: Select "All" to set the same settings for all channels.

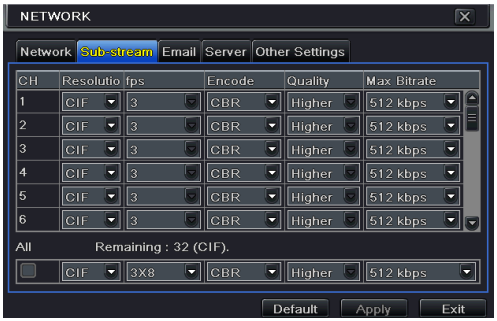


Fig 4-25 Network Configuration-Sub Stream

Parameter	Meaning
FPS	Range from: 1-25
Resolution	Support CIF
Quality	The quality of the clients‟ image. The higher the value is, the clearer the record image. Six options: lowest, lower, low, medium, higher and highest.
Encode	VBR and CBR
Max bit rate	Range from: 64 Kbps, 128 Kbps, 256 Kbps, 512 Kbps, 768 Kbps, 1Mbps, 2 Mbps

4.6.3 Email

To set up Email:
Step 1: Enter into Menu→Setup→ Network→Email interface. Refer to Fig 4-26:
Step 2: Set SMTP Server and port.
SMTP Server/Port: The name and port number of SMTP server. You can setup SSL check

(such as Gmail) according to actual needs.

Step 3: Set sender"s address and password.

Step 4: Set receiver"s email address and click "Test" button to test the validity of the mailbox.

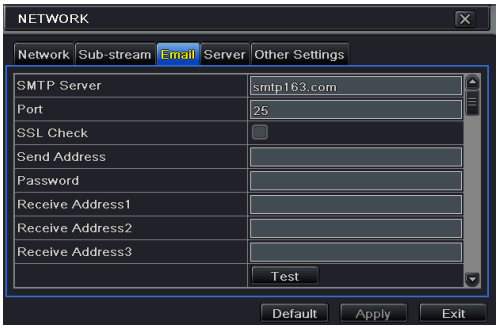


Fig 4-26 Network Configuration-Email

Attaching image: If selected, the system will attach images when sending emails.

4.6.4 Server

This function is mainly used for connecting ECMS. The setting steps are as follows:

Step 1: In the server interface, select "Enable" as shown in the Fig 4-27.

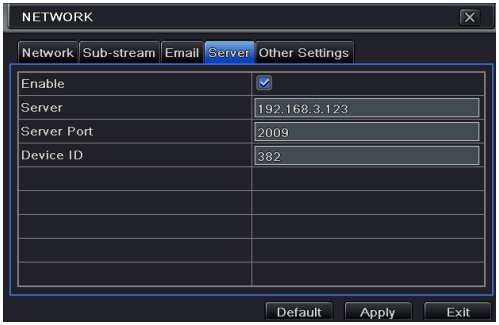


Fig 4-27 Network Configuration-Server

Step 2: Check the IP address and port of the transfer media server in the ECMS. The default server port for auto report is 2009. If it is modified, please enter into the transfer media interface to check.

Step 3: Enable the auto report in the ECMS when adding a new device. Then input the remaining information of the device in the ECMS. After that, the system will auto allot a Device ID. Please check it in the ECMS.

Step 4: Input the above-mentioned server IP, server port and device ID in the server interface. Then click "Apply" button to save the setting. Now, the ECMS system will automatically connect this device.

4.6.5 Other Settings

If your DVR is set to use PPPoE as its default network connection, you may setup DDNS to be used in connection. The setting steps are as follows:

Step 1: Enable DDNS server.

Step 2: Select DDNS server.

Step 3: Enter user name, password and host domain name of the registered website.

Step 4: Click "Test" button to test the effectiveness of the relevant information.

Step 5: Click "Apply" button to save the setting.

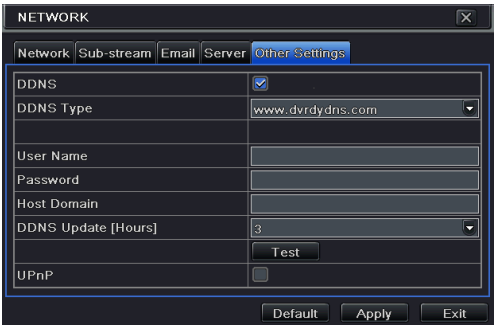


Fig 4-28 Network Configuration-Other Settings

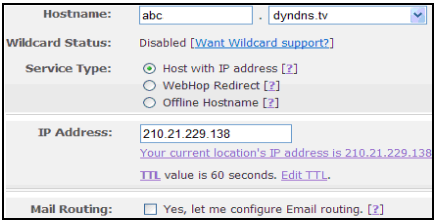
Note: *The domain name selected by user is a banding domain name of DVR. User should logon the website which provided by the server supplier to register a user name and password and then apply for a domain name online. After the successful application, user can access the device from the IE client by inputting that domain name.*

Enable UPnP: Select UPnP here and then enable UPnP function in your router. Therefore, there is no need for you to forward LAN IP address and port in the router in connection of internet. After that, you can check the WAN IP address in the router.

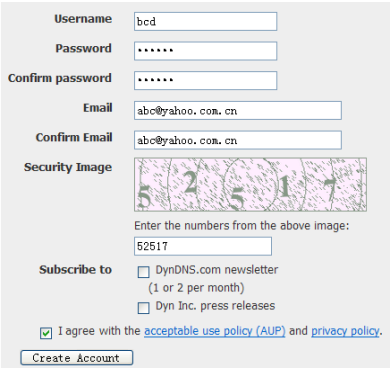
➢ **Domain name Registration** （Take www.dyndns.com for example）

Note: Users can self-define the hostname, username and password.

Input www.dyndns.com in the IE address bar, user can access the domain name registration interface. Click" Dynamic DNS service"→"Create Free Hostname" to register. For example: Hostname is "abc.dyndns.tv. The picture is shown as follows:



After user fill in the blank, click “Add to cart”. Then Dynamic DNS Hosts dialog box will be displayed.
Next, create user account. For example, the username is “bcd”, password is “123456”.



Click” Create Account” button to create user account.

- **DVR Setting**

（1） Domain name

According to the domain name registration of “DDNS”, the domain name for DVR is “abc.dyndns.tv”.

（2） Username and password

According to the above registration, username is “bcd”.
According to the above registration, password is “123456”.

Connect DVR to the Network Client.
Step 1: Enter into Main menu→Network→Other Settings, checkmark DDNS, select “Dyndns” at the DDNS Sever pull down list box and input user name and password.
Step 2: Enter into configuration interface of the router to map the server port and IP address (if the user enables UPnP function, he can skip this step). Click Save button to save the setting
Step 3: Login IE browser and input registered domain name “http://www.abc.dyndns.tv”, connect to DVR client.

DDNS server	
DDNS server	Website provided by dynamic domain name supplier. The optional: www.meibu.com , www.dyndns.com, www.no-ip.com and mintdns type.
User name	User name for log in the website of domain name supplier
Password	Password for log in the website of domain name supplier
Host domain	The domain name user registered at the supplier's website.
Update interval	The interval time of upgrading DVR IP address

4.7 User Management Configuration

This tab allows you to add normal or advanced users. To add user and setup user authority:
Step 1: Enter into Menu→Setup→Users. Refer to Fig 4-29:

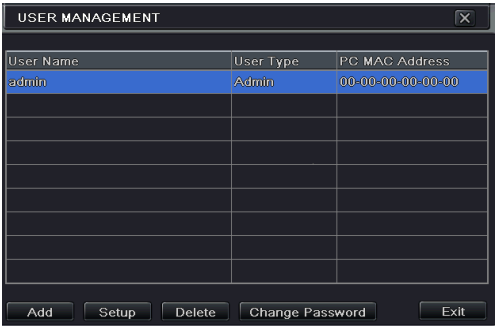


Fig 4-29 User Management Configuration

Step 2: Click Add button to display a dialog box as Fig 4-30:

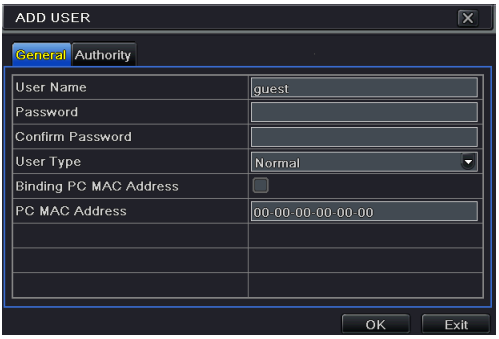


Fig 4-30 Add-General

Step 3: In General tab, input username, password and select user type. You can also check "Binding PC MAC Address" and input this address.
Step 4: Click "OK" to save the setting.

Note: *When the default value of binding PC MAC Address is 0, the user is not bound with the specified computer. If the bind option is used, the user would be able to log into the DVR only through the specific computer (carrying the MAC address).*

Step 5: Select Authority tab and then assign the operation rights for particular user. Refer to Fig 4-31.
Step 6: Click OK to save the setting.

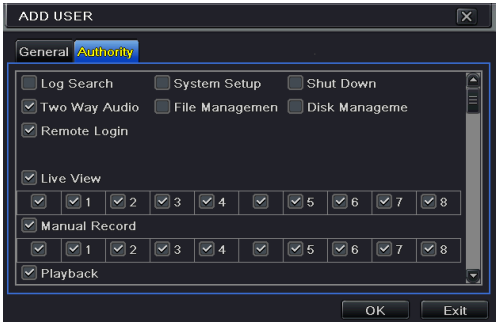


Fig 4-31 Add User-Authority

To delete user:
Step 1: Enter into Menu→Setup→Users interface.
Step 2: Select the added user you want to delete and then click "Delete" button.

To modify user:
Step 1: Enter into Menu→Setup→Users interface.
Step 2: Select the added user you want to modify and then click "Modify" button to do the relevant operation.

To change user password
Step 1: Enter into Menu→Setup→Users interface.
Step 2: Select the added user you want to change its password and then click "Change Password" button.

4.8 P.T.Z Configuration

P.T.Z configuration includes two submenus: serial port and advanced.
Serial port settings are as follows:
Step 1: Enter into Menu→Setup → P.T.Z →Serial Port interface. Refer to Fig 4-32:
Step 2: Select "Enable" and setup the value of address, baud rate and protocol according to the settings of the speed dome.
Step 3: Select "All" to set the same settings for all channels.

Fig 4-32 P.T.Z Configuration-Serial Port

Parameter	Meaning
Address	The address of the PTZ device
Baud rate	Baud rate of the PTZ device. Range form: 110, 300, 600, 1200, 2400, 4800, 9600, 19200, 34800, 57600, 115200, 230400, 460800, 921600.
Protocol	Communication protocol of the PTZ device. Range from: NULL, PELCOP, PELCOD, LILIN, MINKING, NEON, STAR, VIDO, DSCP, VISCA, SAMSUNG, RM110, HY, N-control.
Simulative Cruise	If enabled, no matter whether the PTZ device supports cruise or not, the presets will cruise.

Advanced settings include preset setting, cruise setting and track setting.
Enter into Menu→Setup→ P.T.Z →Advanced. Refer to Fig 4-33:

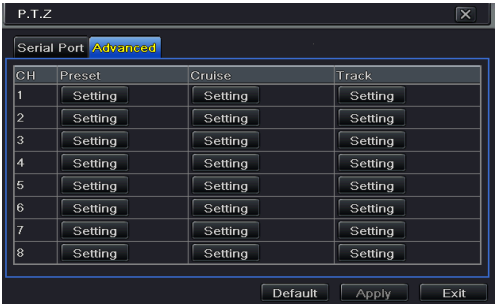


Fig 4-33 P.T.Z configuration-advanced

To set up preset:
Step 1: In the Advanced interface, click preset "Setting" button to see a dialog box as Fig 4-34:

Fig 4-34 Advanced-Preset Setting

Step 2: In the preset setting tab, enable preset, set the preset name and then click preset "Setting" button.

Fig 4-35 Preset Setting

Step 3: Control the dome by rotating up, up left, down, right down, left, left down, right and up right and adjust the rotate speed and the value of zoom, focus and iris of the dome.

Step 4: Select the serial number of the preset point. Click button to enable the PTZ wiper and click button to enable the PTZ light.

> ***Note:*** *PTZ must support wiper and light button and these two buttons are just available when selecting PELCOP or PELCOD.*

Step 5: Click Save button to save the setting. Click icon to hide the tool bar. Right click to view this bar again. Click icon to exit the current interface.

Step 6: Return to the Advanced-Preset Setting interface and click OK button to save the setting.

To set up cruise:

Step 1: In the Advanced interface, click cruise "Setting" button to see a window as shown in

Fig 4-36:

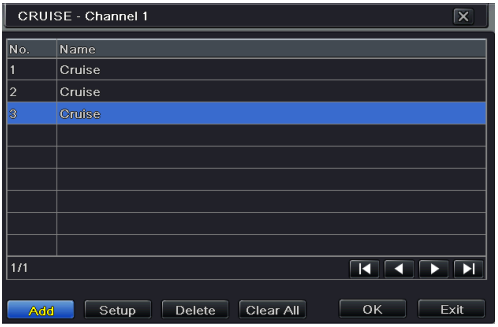


Fig 4-36 Cruise Setting

Step 2: Click Add button to add cruise line in the list box (8 cruise lines can be added at most).
Step 3: Select a cruise line and click Setup button to see a dialog box as Fig 4-37:

Fig 4-37 Modifying Cruise Line

Step 4: Click Add icon to set the speed and time of preset point. Select a preset point and then click Delete icon to delete that preset point. Click Modify icon to modify the setting of a preset point. User can click those icons to adjust the position of preset point. Click Preview button to preview the cruise line. Click OK button to save the setting.

To set up track:
Step1: In the Advanced interface, click track "Setting" button to see a dialog box as Fig 4-38:
Step 2: Control the dome by rotating up, up left, down, right down, left, left down, right and up right and adjust the rotate speed and the value of zoom, focus and iris of the dome.
Step 3: Click Start Record button to record the move track of PTZ. Click this button again to stop record.
Step 4: Click Start track button to play recorded track. Click this button again to stop playing.
Step 5: Click icon to exit the current interface.
After the completion of settings, please remember to click "Apply" to save the setting.

Fig 4-38 Track Setting

4.9 Advanced

Advanced configuration includes three submenus: reset, import/export and Block/Allow list.

4.9.1 Reset

Reset all settings the device will reboot.

4.9.2 Import/Export

User can export the data files into mobile storage devices as backup function, and then import specified data files from mobile storage device to DVR.

4.9.3 Block/Allow List

Fig 4-39 Block/Allow List

Here authorized user can prohibit computer users within a certain IP address range from accessing to DVR or allow computer users within a certain IP address range to access DVR. E.g. if an admin user doesn't want computer users within IP address range from 192.168.000.002 to 192.168.000.004 to access the DVR, he can check Block list option, and then input such IP address range. If it is required that computer users within a certain IP address range access DVR, they can check Allow List option and then do the required setting.

5 Search, Playback & Backup

Search configuration includes four submenus: time search, event search, file management and image.

5.1 Time Search

Step 1: Enter into Menu→Search →Time Search. Refer to Fig 5-1:

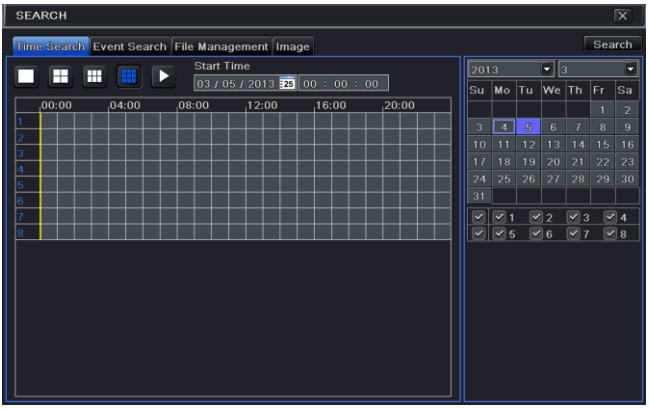
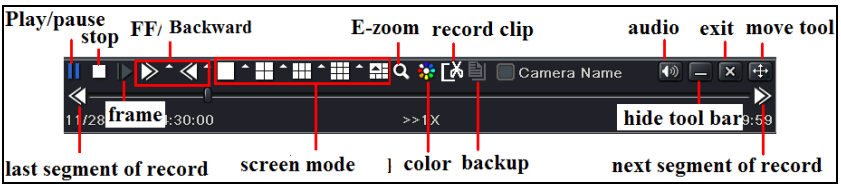


Fig 5-1 Search Configuration-Time Search

Step 2: Select date and channels on the right hand side and press the „Search" button. A date with highlighted borderline indicates presence of data.

Step 3: Set the start time by clicking a particular grid or by entering the specific value in the start time field.

Step 4: Select the channel display mode and click Play button to play record. Use the playback toolbar to control the playback.



➢ To set backup during a certain period in the playback interface:

Select the start time by dragging the slider and click icon. Then select the end time and click this icon again to confirm the record period. Next, click icon to backup the record during this period.

5.2 Event Search

Step 1: Enter into Menu→Search→Event Search button. Refer to Fig 5-2:

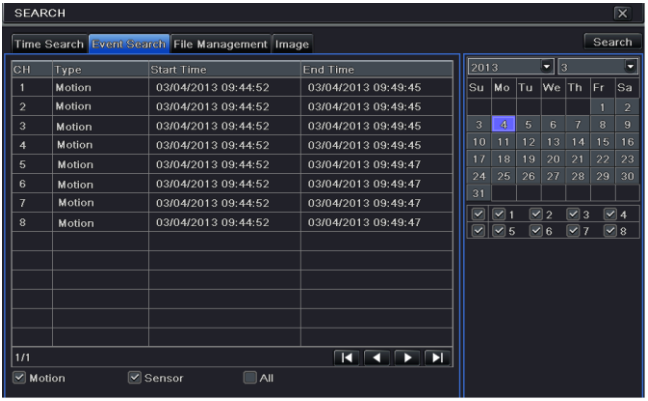


Fig 5-2 Search Configuration-Event Search

Step 2: Select date and channels on the right hand side. A data with highlighted borderline indicates presence of data.
Step 3: Checkmark Motion, Sensor or All accordingly.
Step 4: Click Search button to display the searched event information in the event list box.
Step 5: Double check a certain record file to playback.

5.3 File Management

Step 1: Enter into Menu→Search→File Management interface. Refer to Fig 5-3:

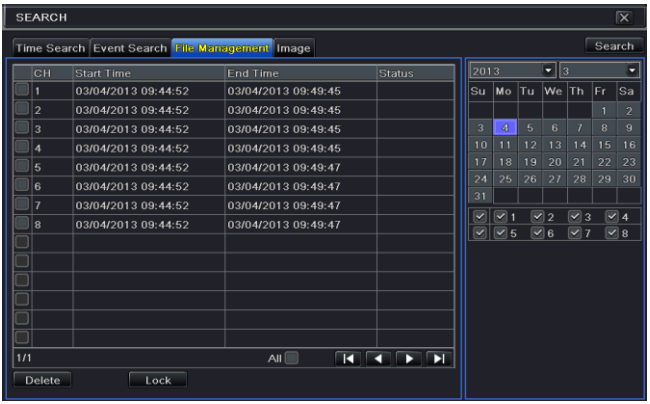


Fig 5-3 Search Configuration-File Management

Step 2: Select date and channels. The date with highlighted borderline indicates presence of

data.
Step 3: Click Search button to display the searched files in the file list box.
Step 4: Use "All" button to lock/unlock or delete all files in the file management column.
Step 5: Double click an unlocked item to play.

Lock: Select a file and click Lock button to lock this file, after that, that file will not be deleted or covered.
Unlock: Select a locked file and click "Lock" button to unlock this file
Delete: Select an unlocked file and click "Delete" button to delete this file.

5.4 Search by Image

Step 1: Enter into Menu → Search → Image tab.
Step 2: Select data and channels on the right hand side.
Step 3: Press "Search" button to search for a recorded image.
Step 4: Once an alarm image has been identified, the user can double click the image to play recording.

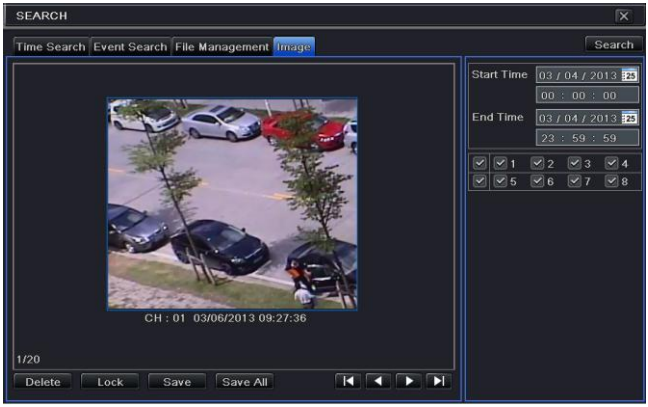


Fig 5-4 Search Configuration-Image

Lock: Select the image and click "Lock" button to lock this image.
Save: Click "Save" button to copy the image on the HDD.
Save All: Click "Save All" button to copy all images on the HDD.

5.5 Backup

This unit supports backup by built-in SATA DVD Writer with USB Flash. You can also make backup by IE browser via internet (see section 7.3.2 Remote backup).
Step 1: Enter into backup configuration. Refer to Fig 5-5:
Step 2: Set the start & end time, select channels and click Search button to display the searched data in the data backup list box.

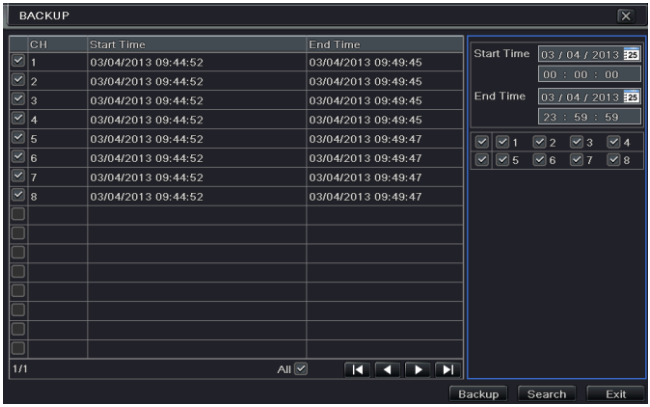
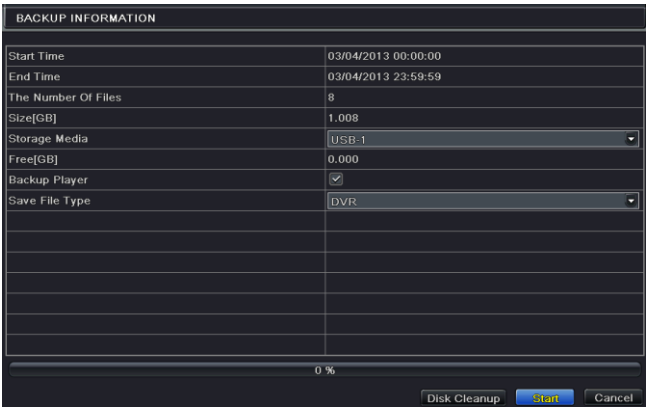


Fig 5-5 Backup Configuration

Step 3: Select a required file or checkmark "All" to select all data files. Click Backup button to display Backup information window.



Step 4: In the backup information interface, you can check the relevant information of backup files, storage type, save file type, etc. Then click Start button to start backup.

Note: *If the backup files are saved in DVR format, please check backup player. Only this player can play these files in DVR format. If the backup files are saved in AVI format, you can play these files with common media player.*

6 Manage DVR

6.1 Check System Information

Check system information includes six submenus: system, event, log, network, online user and record.

6.1.1 System Information

In this interface, you can check the hardware version, MCU version, kernel version, device ID, etc.

6.1.2 Event Information

In this interface, you can search for events like motion, sensor and video loss. The utility provides an interface to have a date based and a channel based search. This report can further be saved on a USB flash drive as an html file using the export button.

6.1.3 Log Information

In this interface, you can search for relevant logs as per set date and event which includes Operation, Setup, Playback, Backup, Search, Check Information and Error. This report can further be saved on a USB flash drive as an html file using the export button.

6.1.4 Network Information

In this interface, you can check relevant parameters of network.

6.1.5 Online Information

In this interface, you can check the details of the connected online users.

Refresh: Refresh the current interface.
Disconnect: Disconnect the online users to access DVR. If this function is used by the admin, the particular PC will not be able to access the device for five minutes.

6.1.6 Record Information

In this interface, a user can check resolution, ftp and record status including sensor alarm recording, motion recording, manual recording or schedule recording.

6.2 Manual Alarm

In this interface, you can trigger a manual alarm.

6.3 Disk Management

To format the disk

Step 1: Enter into disk management interface

***Note**: please format the hard disk before record.*

Step 2: Click Refresh button to refresh the disk information in the list box.
Step 3: Select a hard disk and click Format button to start format.

***Note**: All recorded files in the hard disk will be lost after formatting.*

To check other information of disk
After you enter into Disk Management→Advanced tab, you can check model, S/N, firmware, health status of the disk in this interface. You also can monitor the temperature, internal circuit, dielectric material of the disk, analysis the potential problems of the disk and warn so as to protect its data.

6.4 Upgrade

At present, it only supports USB update. Get the software from your vendor when there is a new software version.
The upgrade steps are as follows:
Step 1: Copy the upgrade software which gets from vendor into the USB storage device.
Step 2: Connect the USB flash drive to the USB port.
Step 3: Enter Menu→Upgrade tab. You will see the upgrade software name displaying in the upgrade list box.
Step 4: Select that software and then click Upgrade button. The system will be upgraded automatically.

***Note:** Please wait for a while when the system reboots. Any power interruption is not allowed during upgrading.*

6.5 Logoff

A log off dialogue box will pop up by clicking Log off icon. Then click OK button to confirm to log off. If you want to log in again, click icon to enter user name and password to re-login.

7 Remote Surveillance

7.1 IE Remote Surveillance

In order to view the DVR from a network it must be connected to a LAN/WAN or internet. The network setup should be done accordingly. Please refer to 4.6 Network Setup. This DVR supports IE browser, on Windows XP and Vista platform.

7.1.1 On LAN

Step 1: Enter into the DVR's Main Menu→Setup→Network interface to input IP address, Subnet Mask, etc .If using DHCP, please enable DHCP in both the DVR and the router.
Step 2: Enter Record Setup to set network video parameters like resolution, frame rate etc.
Step 3: Open IE on a computer on the same network. Input the IP address of the DVR in IE address bar and press enter.
Step 4: IE will download ActiveX component automatically. Enter the username and password in the subsequent window

***Notice**: If HTTP port is not 80, other number instead, need add the port number after IP address. For example, set HTTP port as 82, need input IP address like 192.168.0.25:82.*

User name and password here are the same with that used on the DVR. The default username and password is admin and 123456.

7.1.2 On WAN

There are two ways for the DVR to connect to internet.

1. Connect the DVR to internet through router or virtual server

Step 1: Enter into the DVR's Main Menu→Setup→Network interface to input IP address, Subnet Mask, etc. If using DHCP, please enable DHCP in both the DVR and router.
Step 2: Forward IP address and port number in Virtual Server setup of the router or virtual server. Configure the firewall to allow accessing the DVR. (If the user has enabled the UPnP function in both the DVR and router, he can skip this step.)
Step 3: If users want to utilize dynamic domain name, please apply for a domain name in a DNS server supported by the DVR or router. Then add to the DVR or router.
This unit supports www.meibu.com，www.dyndns.com, www.no-ip.com and mintdns type.
Step 4: Open IE browser, input IP address, or dynamic domain name and enter. If HTTP port is not 80, add the port number after IP address or domain name.
Step 5: IE will download ActiveX automatically. Then a window pops up and asks for user name and password. Input name and password correctly, and enter to view.

***Note:** If you cannot download and install ActiveX, please refer to FAQ Q8.*

2. Connect the DVR to internet directly

Step 1: Enter into the DVR's Main Menu→Setup→Network interface to enable PPPoE and then input user name and password received from your ISP. Next, click „Apply". The DVR will connect to the server and would give a confirmation message.

Step 2: When accessing the remote interface of DVR, user can input WAN IP to access directly (user can enter into Main menu→Information→Network interface to check IP address). The browser will download Active X control.

Step 3: The following setting steps are as the same as Step 4 and Step 5 in Point 1.

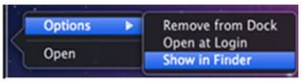
7.2 Remote Surveillance through Apple PC

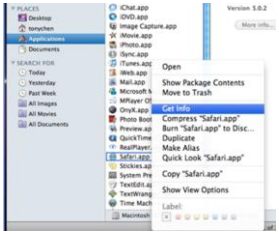
Note: *Because the current plug-in version of client end just only supports 32-bit mode, so the safari browser shall start 32-bit mode. If the browser is the earlier MACOS version, the default setting is 32-bit mode and the setting can be skipped.*

The setting steps are as follows:

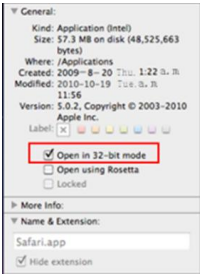
Step 1: Right click safari icon and select "Show in Finder".

Step 2: Select Applications→Right click "Safari. App"→Select "Get Info".





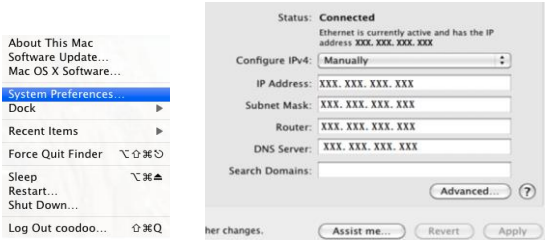
Step 3: Select "Open in 32- bit mode".



7.2.1 On LAN

Step 1: After starting Apple computer, click Apple icon. The following window will pop up. Please select "System Preferences"→ "Internet &Wireless"→ "Network".

Step 2: Go into Network interface and then click “Ethernet Connected” to check the internet connection of Apple PC.

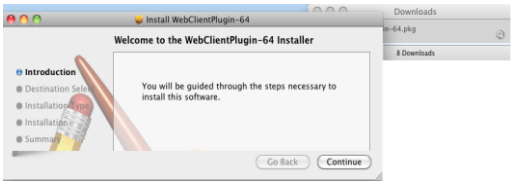


Step 3: After acquiring the IP address, Subnet Mask and so on, please enter into the DVR’s Main Menu→Setup→Network interface to manually input IP address, Subnet Mask and Gateway according to the configuration of PC. The network segment should be the same as the PC. If using DHCP, please enable DHCP in the DVR and router.

Step 4: After the above information is completed, you can enter LAN IP and http port in the Safari browser. For example: input http://192.168.1.100:81(here 192.168.1.100 is LAN IP of DVR, 81 is the http port of DVR), and click “ ” button. Then the browser will download Active X control as shown below:

Web Client
http://192.168.1.100:81
please click icon to load and install WebkitPlugin:
please restart browser to ensure WebkitPlugin can take effect after install!

Step 5: Click icon and then select the Active X control, the welcome interface will be shown. Click “Continue”→ “Install” button，the following window will pop up：



Input the name and password of Apple PC and then click “OK” to install this Active X control.

Step 6: After finishing installing the Active X control, please quit from the Safari browser. Right click Safari icon on the desktop and then select “Quit” button to quit the browser. Then restart Safari browser. Input the IP address and http port to enter into the login interface of DVR.

7.2.2 On WAN

There are also two ways for DVR to connect to Internet.

1. Connect the DVR to internet through router or virtual server

Step 1: The network setups are the same as step one to step four of point 1 on WAN of IE remote surveillance.

Step 2: Enter WAN IP and http port in the Safari browser to install the Active control. The concrete steps are the same as step 5 and 6 of Chapter 7.2.1.

2. Connect the DVR to internet directly.

Step 1: The network setups are the same as step one of point 2 on WAN of IE remote surveillance.

Step 2: Enter WAN IP and http port in the Safari browser to install the Active control. The concrete steps are the same as step 5 and 6 of Chapter 7.2.1.

7.3 The Remote Live Preview

Fig 7-1 Remote Live Preview Interface

Symbol and function definitions:

1	Channel indicator	**2**	Screen display mode
3	Volume	**4**	Start recording
5	Snapping picture	**6**	Bidirectional talk
7	Start IE record	**8**	Playback
9	PTZ control	**10**	Color
11	Master/sub stream status		

***Note**: Click* *button to start recording. The record file will be saved in user's PC.*

Screen display mode:

Click the icon beside the screen display mode to select channels.

A maximum of 8 channels can be selected. Then click OK button to confirm the setting.

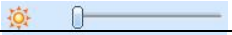
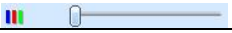
Snap pictures

Click "Snap" icon to automatically capture pictures and save those pictures in the computer.

You can set up the save path for those picture in the Remote Preview interface → Configuration →Local configuration.

Color adjustment:

Drag the slide bar to adjust Brightness, Contrast, Hue, and Saturation. Click Default to reset them to original value.

Buttons	Description
	Drag the scroll bar to adjust the brightness of channel
	Drag the scroll bar to adjust the contrast of channel
	Drag the scroll bar to adjust the saturation of channel
	Drag the scroll bar to adjust the hue of channel
	Click this button to recover the default value of brightness, contrast, saturation and hue.
	Save the adjustment

PTZ control

Please connect speed dome to the device via RS485 firstly, make sure the protocol of the speed dome is supported by the device and set the relative parameters manually. User can control the dome up, down, right, left or stop rotating on Control Center, adjust rotation speed, Iris and zoom, focus on the dome, and set the presets, etc.

Buttons definition:

Buttons	Description
	to rotate the dome upwards. to rotate the dome diagonally up-left. to rotate the dome diagonally up-right to rotate the dome downwards. to rotate the dome diagonally down-right to rotate the dome diagonally down-left to rotate the dome towards left. to rotate the dome towards right to stop rotating the dome.
	Drag the scroll bar to adjust rotating speed of the dome.
	'Iris' button. Click button near 'Iris' button to increase light of the dome. Click button near 'Iris' button to decrease light of the dome.
	'Zoom' button. Click button near 'Zoom' button to zoom in the locale picture of this camera. Click button near 'Zoom' button to zoom out the locale picture of this camera.
	'Focus' button. Click button near 'Focus' button to have long focus. Click button near 'Focus' button to have short focus.
	Go to the Preset
	Select and do auto cruise
	Track
	Auto scan
	Wiper button
	Light button

Click the right mouse on the live interface. This will take you to a pull-down menu.

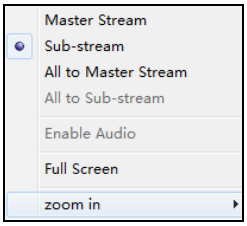


Fig 7-2 Right Key Sub Menu

Stream: This DVR supports master stream and sub stream. Master stream has higher frame rate, max 25FPS (PAL) /30 FPS (NTSC) for every channel, but it needs higher network bandwidth simultaneously. Sub stream has low frame rate, max 6FPS (PAL) /7FPS (NTSC) for every channel, it requires low network bandwidth. Therefore, you can select the stream according to your bandwidth.

All to master/sub stream: Set all channel to master stream or sub stream.
Enable audio: Enable or disenable audio
Full screen: In full screen status, the live preview picture will display with full screen and the tool bar will be hid. Double click left mouse or click right mouse to return.
Zoom in: Single channel large screen electronic amplification. Click the channel which needs to be zoomed. Right click to select zoom in button to zoom in the image. Double click or right click to exit.

7.4 Remote Playback & Backup

7.4.1 Remote Playback

Click button to go into record playback interface. Refer to Fig 7-3:
Select the record date and channels and double-click the file name in the record file list box. Then you can play that file and preview the picture.

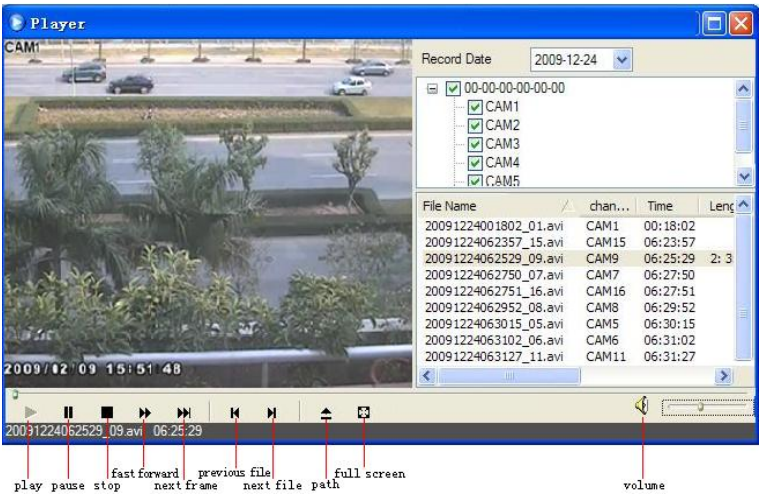


Fig 7-3 Play Record File Interface

This DVR supports remote time search, event search and file management.

By Time Search:
Step 1: Enter into Search→Time Search. Refer to Fig 7-4:
Step 2: The highlight date in the area② indicates recorded data. Select the date in area ② and record channels in area③.
Step 3: Click "Search" button. The record data will be displayed in the data information list box.
Step 4: Set the data playing time and display mode in the area① as required.
Step 5: Click "Play" button to playback.

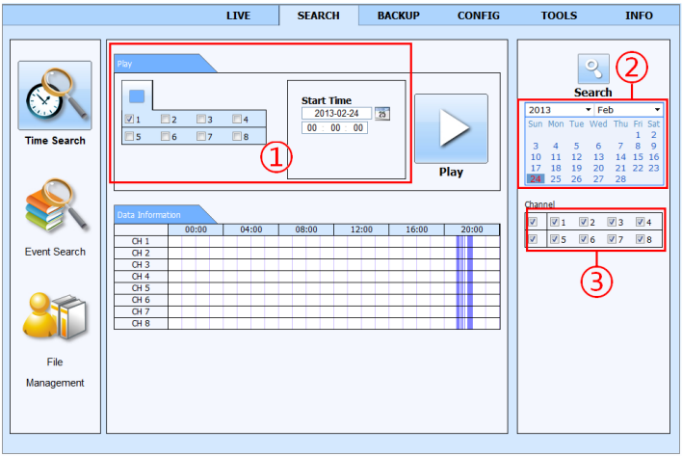


Fig 7-4 Time Search Interface

Step 6: Click the relevant buttons in the interface for operation, like FF, pause, change channel mode, etc. Refer to Fig 7-5:

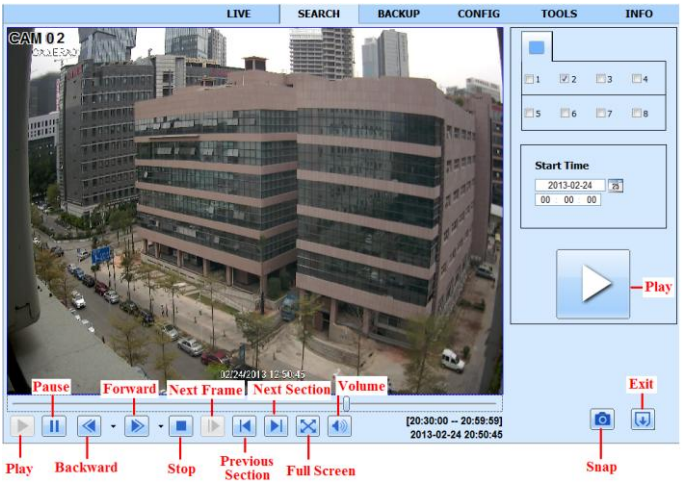


Fig 7-5 Time Search Playback

By Event Search:

Step 1: Enter into Search→Event Search interface. Refer to Fig 7-6:

Step 2: Click the highlight date and select record channels.

Step 3: Checkmark the event type: motion and sensor.

Step 4: Click "Search" button.

Step 5: Double-click certain item to play.

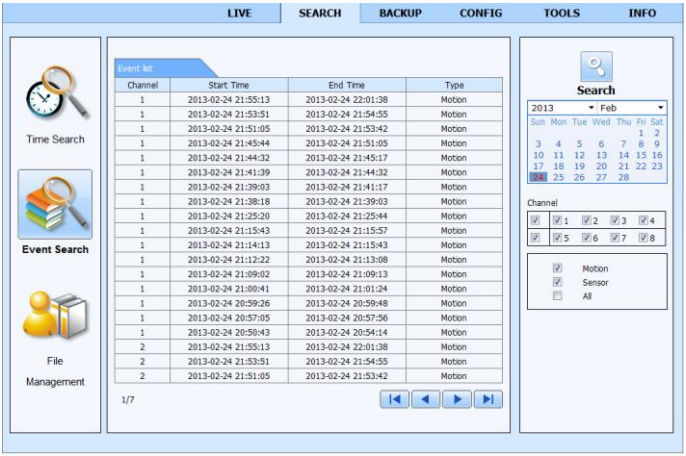


Fig 7-6 Event Search Interface

File Management

Step 1: Enter into Search→File Management interface. Refer to Fig 7-7:

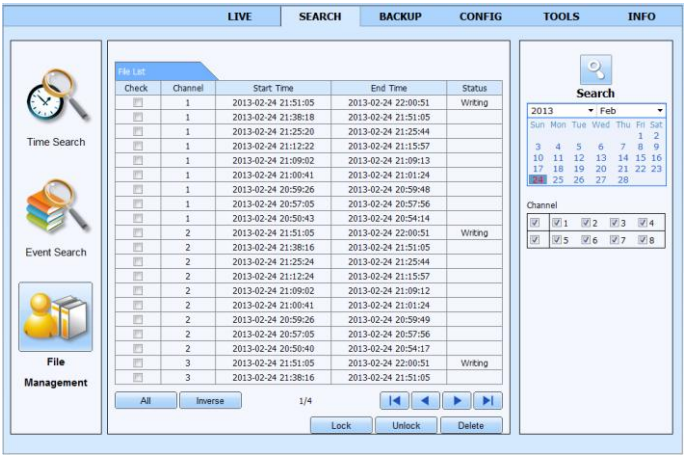


Fig 7-7 File Management Interface

Step 2: Select highlighted date and channels.

Step 3: Click "Search" button to search the recorded files.

Lock: Select certain file item in the file list box and then click "Lock" button to lock this file that ca not be deleted or overlaid.

Unlock: Select a locked file and then click "Unlock" button to unlock this file.

Delete: Select an unlock file and then click "Delete" button to delete this file from file list.

7.4.2 Remote Backup

Click Backup button to enter into backup interface. Please refer to Fig 7-8:

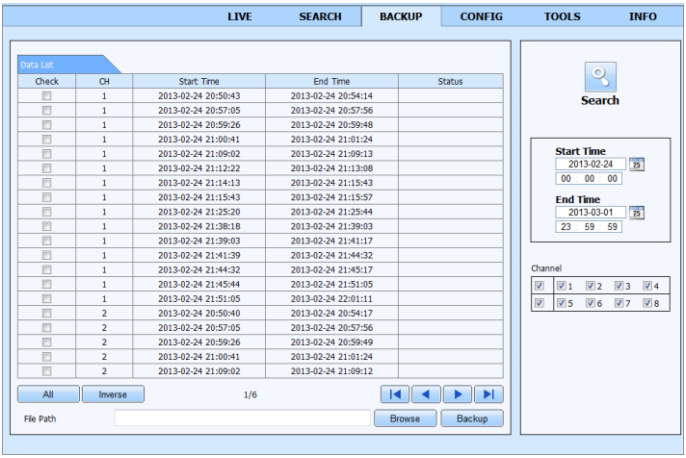


Fig 7-8 Remote Backup Interface

Step 1: Select channels, set the start and end time and then click "search" button to display the file information in the file list box.

Step 2: Select backup files and click "Browse" button to set the save path. Then click "Backup" button to start backup. The backup files will be saved on user's PC.

7.5 Remote System Configuration

You can do remote setup of the device which includes functions like basic configuration, live configuration, record configuration, schedule configuration, alarm configuration, network configuration, PTZ configuration and user configuration. You should select an option from the menu list on the left and then setup the relative parameters. Only one user can do configuration setup at a given point of time. Click Config tab to enter into the below interface The sub menu list and the options in every menu are similar to that of the DVR. Please refer to Chapter 4 Main Menu Setup Guide for more details.

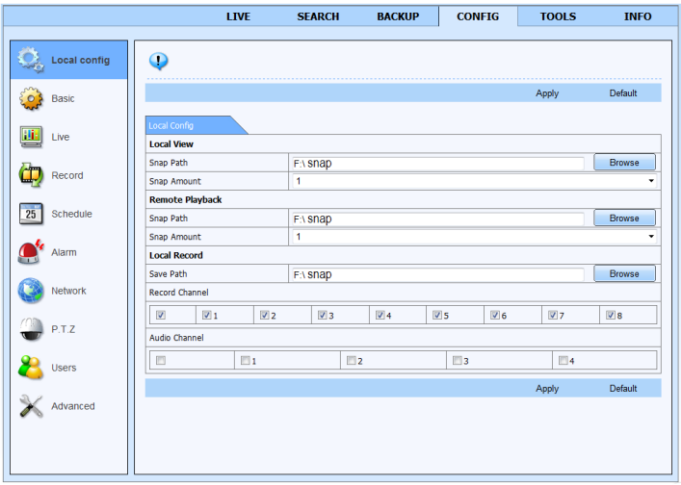


Fig 7-9 Remote Menu Setup

7.6 Tools

Click on the tool"s tab to access the Disk Management tool. The user can view the status of the hard drive(s), can view/change the read write properties and can also format the hard drive(s).

7.7 Remote Management

The Info interface provides a web based interface to access the general information pertaining to the DVR"s settings. The interface includes five submenus: System, Event, Log, Network and Online users.

Note: *There may be subtle differences with respect to functions of remote surveillance between through IE and through Apple PC. Here we only take IE remote access for example.*

Appendix A FAQ

Q1. Why the DVR doesn't turn on after connecting to the power?

a. The power adapter could have gone bad. Please change a new power adapter.
b. The power from the adapter may be not enough for operating the DVR. Please use the power adaptor supplied along with the DVR.
c. It could be a hardware problem.

Q2. There is not menu displayed and only has live image display.

a. Check whether the monitor is connected to the main video out and not the spot out. The monitor might be connected to VGA port whereas the DVR may be set for output through BNC or vice versa. Long press ESC key to toggle the output modes.

Q3. The DVR LED turns on, however there is no output.

a. The power from the adapter may be not enough for operating the DVR. Please use the power adaptor supplied along with the DVR.
b. It could be a wiring issue. Please check the connection for the same.
c. Check the monitor settings.

Q4. Why are no images displayed on few or all channels of the DVR?

a. It could be a wiring issue. Please check the cable and the ports of the cameras and DVR.
b. The problem can also be related to cameras. Please check the same.
c. Please make sure that the channels are not programmed as hidden channels and check the status from admin login.

Q5. The HDD cannot be found.

a. The power from the adapter may be not enough for operating the DVR. Please use the power adaptor supplied along with the DVR.
b. It could be wiring issue. Please check the power and data cables of the HDD.
c. The HDD could have gone bad. Change a new one.

Q6. The DVR cannot record.

a. Make sure the HDD was formatted prior to use.
b. Maybe the user hasn't enabled the record function or has done incorrect setup. Please refer to Chapter 5.
c. Maybe HDD is full and thus the DVR is not able to record. Check HDD information from Disk Management and if required, please enable the recycle function.
d. The HDD could have gone bad. Please change another one.

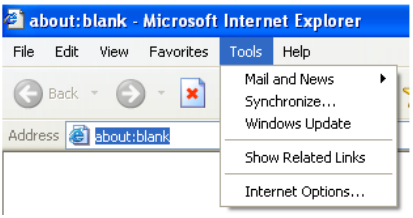
Q7. Mouse doesn't work.

a. The mouse should be connected to the USB port at the rear side.

b. After connecting the mouse, allow the DVR to detect the mouse for seconds. If not detected, try restarting the DVR.
c. The mouse may be incompatible. Please change a mouse.

Q8. ActiveX control cannot be downloaded.

a. IE browser blocks ActiveX. Please do setup as per the steps mentioned below.
Step1: Open IE browser. Click Tools→Internet Options.



Step 2: Select Security→Custom Level. Refer to Fig 8-1
Step 3: Enable all the sub options under "ActiveX controls and plug-ins". Refer to Fig 8-2
Then click Ok to finish setup.

b. Other plug-ins or anti-virus blocks ActiveX. Please uninstall or do the required settings.

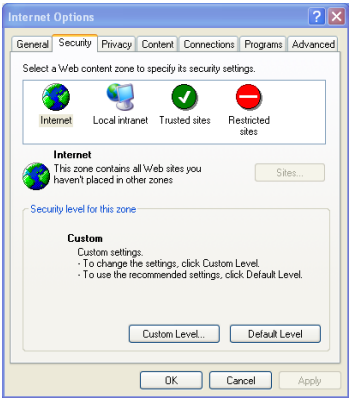


Fig 8-1

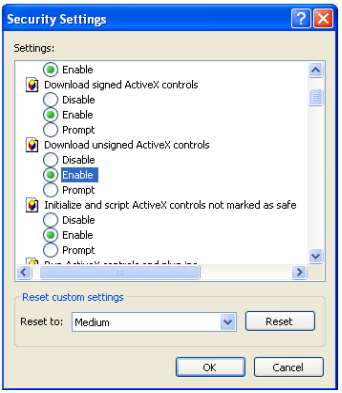


Fig 8-2

Q9: DVR displays "please wait…"all the time.

a. HDD power cable and data cable may not be well connected. Please check the connections for HDD.
b. It is also possible that the DVR was forced to stop because HDD has a bad sector and it may have caused the system to halt. Check with a good known HDD or try formatting the existing HDD.

Q10: How to input password and digital numbers?

Click the password or the input box a small keyboard will pop up. Please select characters to be input (the initial password is 123456), or you can use the digital keys on the front panel, or the digital keys on the remote controller.

Q11: A hard disk is being identified as a new device however it was being used with another DVR of same model. Should it be formatted prior use?

It is possible to migrate an HDD from one DVR to another provided that the DVRs are of the same model and that the HDD being migrated would be used as the sole disk in the new DVR. However in cases where the new DVR already contains a HDD, the migrated disk being installed would have to be formatted. In general migrating disks from one DVR to another is not recommended.

Q12: What is the minimum configuration required for remote monitoring?

PC Module	Parameters
CPU	Intel Celeron 2.4G
Motherboard	Intel 845
HDD	80G
RAM	512M
VGA	NVIDIA GeForce MX440/FX5200 ATIRADEON 7500/X300
OS	Windows 2000(SP4 above) /Windows XP(SP2 above) /VISTA
DirectX	9.0

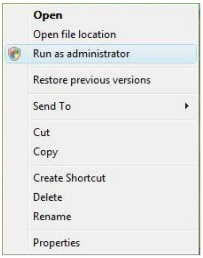
Q13: How to handle the situation that the codec Control is blocked when downloading in the VISTA or Win7 system?

This problem can be fixed in two ways:

a. Enter Control Panel→User Account and Family Safety → User Account Control (refer to the following figure) and click Turn User Account on or off. Cancel Use User Account Control (UAC) to help protect your computer.

« Turn User Acco...
Search
Turn on User Account Control (UAC) to make your computer more secure
User Account Control (UAC) can help prevent unauthorized changes to your computer. We recommend that you leave UAC turned on to help protect your computer.
Use User Account Control (UAC) to help protect your computer
OK
Cancel

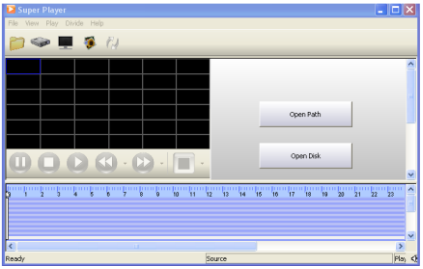
b. Right click IE browser (refer to the following figure) and select Run as administrator to run browser.

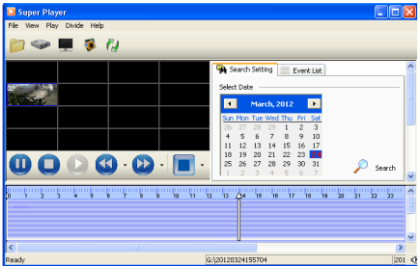


Q14. How to play the backup file?

Insert your USB device where the backup files are saved in the USB port of PC. If your files are saved in DVR format, you must have already downloaded the backup player box before doing backup. Then double click to open your USB disk to find your backup files and backup player. Double click

icon to install backup player. After you install it, open this player and click “Open Path” button to open your backup file. Next, click play button to play the backup file. Double click the image and then right click to enable audio. If you save your backup files in AVI format, you can directly open your file by using the media player which supports this format.





Appendix B Calculate Recording Capacity

Users can calculate the size of hard disk according to the saving time and DVR recording settings. The DVR uses fixed video bit rate. The below are the details at different settings.

Resolution	Frame Rate Totally(FPS)	Video Quality	Bit Rate (kbps)	Used Space (MB/h)
1080P	15(NTSC)/ 12(PAL)	Highest	12M	2700
		Higher	9M	2025
		Medium	7M	1575
		Low	6M	1350
		Lower	4M	900
		Lowest	1.5M	338

The calculation format is: **Total Recording capacity =Used space per hour (MB/h) (coverage rate of hard disk) × recording time (hour) × channel numbers**
For instance, one customer uses NTSC cameras, set resolution to 1080P, video quality to Lowest, frame rate to 15 fps for enabling total 4 channels. He wants the unit to record continuously in a month. Below is the calculation:

Total Recoding capacity =338 (mb/h) × 24(hours/day) ×30(days) × 4(channels)= 973440 (MB) ≈950 (GB)

Therefore, customers just install one SATA HDDs with 1TB, it can almost record for one month.

Appendix C Compatible Devices

1. Compatible USB drive after test.

Brand	Capacity
SSK	512MB, 1G, 2GB
Netac	4GB
Kingston	2GB
Aigo	2GB
Smatter vider	1GB
SanDisk	4GB

2. Compatible SATA CD/DVD writers after test

Brand	Model
TECLAST	GH22NP20/TL-22XD
BENQ	DW220S-0K4
LITEON	DH—20A6S01C
LITEON	DH-20A4P02C
SAMSUNG	TS-H653B

3. Compatible HDD list

Brand	Capacity
Seagate Barracuda	80G/160G/250G/320G /1.5T/2TB
Seagate SV35.3	1T
Seagate Pipeline HD.2	500G
Maxtor Diamondmax	160G
HITACHI Deskstar	80G/160G
WD WD1600JS	160G
Samsung HD161HJ	160G

Appendix D Specifications

Compression format	H.264 Main Profile
Video output	BNC×1, VGA×1, HDMI×l
Video Input	Composite：1.0V p-p/75Ω BNC×8
HDMI/VGA Resolution	1920*1080/1280*1024 / 800*600
Record Resolution	1080P (1920*1080)
Display Frame Rate	200FPS (PAL), 240FPS (NTSC)
Record Frame Rate	100FPS (PAL), 120FPS (NTSC)
Audio Input	RCA X4
Audio output	RCA X1
Alarm Input	NO or NC 8CH
Alarm output:	1CH
Record Mode	Manual / Sensor /Timer / Motion detection
Simplex/Duplex/Triplex	Pentaplex
Network Interface	RJ45 (LAN, INTERNET)
PTZ control	YES
Communication interface	RS485, USB2.0 x 2 (one for backup, another for USB mouse)
Disk info	SATA x 1+DVD-RW x 1 or SATA x 2
Remote controller	YES
Power Supply	DC12V
Temperature	0℃-50℃
Humidity	10%-90%

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